TRANSLATION PATENT COOPERATION TREATY POT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference		e l							
0000055154			OR FURTHER ACTIO	See Form PCT/IPEA/416					
International application No.			rnational filing date (da	Priority date (day/month/year)					
PCT/EP2004/014066			0.12.2004	12.12.2003					
Internationa	International Patent Classification (IPC) or national classification and IPC								
C08J9/00,C08J9/14,C08J9/232									
Applicant									
BASF Aktiengesellschaft									
 This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36. 									
2. T	7								
3. T	his report is also accom	panied by ANNE	XES, comprising:						
a. (sent to the applicant and to the International Bureau) a total of					sheets, as follows:				
	sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or								
	sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).								
	sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental								
	Box.			-4- 4 d V					
	b (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s))								
	, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see								
	related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).								
4. T	his report contains indi	cations relating to	the following items:						
	Box No. I Basis of the report								
	Box No. II Priority								
	Box No. III	Non-establishme	nt of opinion with regar	d to novelty, inventi	ive step and industrial applicability				
[Box No. IV	Lack of unity of i	invention						
	Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement								
	Box No. VI Certain documents cited								
	Box No. VII Certain defects in the international application								
	Box No. VIII Certain observations on the international application								
Date of sub	mission of the demand		Date	of completion of thi	is report				
Name and mailing address of the IPEA/EP			Auth	Authorized officer					
Facsimile No.			Telep	Telephone No.					

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/EP2004/014066

Box	No. I	Basis of the report							
1.		h regard to the language, this report is based on the internation cated under this item.	onal application in the language in	which it was filed, unless otherwise					
	This report is based on translations from the original language into the following language which is the language of a translation furnished for the purposes of: international search (Rule 12.3 and 23.1(b)) publication of the international application (Rule 12.4)								
2.	with regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report): the international application as originally filed/furnished the description:								
		pages 1-9 pages*		as originally filed/furnished					
		pages*	-						
	\square		_ received by this Admortly on						
		nos.		as originally filed/furnished					
		nos.*	as amended (togethe	r with any statement) under Article 19 0203.2006 with letter					
		nos.* _ 1-6	received by this Authority on	of 02.03.2006					
		nos.*	received by this Authority on						
		the drawings: sheets		as originally filed/furnished					
		sheets*	received by this Authority on						
		sheets*	received by this Authority on						
		a sequence listing and/or any related table(s) – see Supplement	nental Box Relating to Sequence L	isting.					
3.		The amendments have resulted in the cancellation of:							
		the description, pages							
		the claims, nos.	the claims, nos.						
		the drawings, sheets/figs							
		the sequence listing (specify):	the sequence listing (specify):						
		any table(s) related to sequence listing (specify):							
4.		This report has been established as if (some of) the amend they have been considered to go beyond the disclosure as full							
		the description, pages							
		the claims, nos.							
		the drawings, sheets/figs	the drawings, sheets/figs						
		the sequence listing (specify):	the sequence listing (specify):						
	any table(s) related to sequence listing (specify):								
*	If ite	em 4 applies, some or all of those sheets may be marked "sup	perseded."						

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International application No.
PCT/EP2004/014066

							CI/EPZUC	4/014066
Box No. V	Reasoned statement citations and explan	under Ar ations sur	ticle 35(2) voporting suc	vith regard ch statemen	to novelty, inv t	entive step or	industrial applic	ability;
1. Statement								
Novelty	(N)	Claims	5					YES
		Claims	1-4,	6				
Inventiv	ve step (IS)	CIL.	5					NEC .
		Claims Claims	$\frac{3}{1-4}$	6				YES NO
Industri	al applicability (IA)		1-6					
		Claims						NO
2. Citations an	nd explanations (Rule 7	0.7)						
See s	upplementa:	l she	et.					

Supplemental Box

In case the space in any of the preceding boxes is not sufficient. Continuation of: \boldsymbol{I} and $\boldsymbol{V}\boldsymbol{I}$

- 1 Reference is made to the following documents:
 - D1: WO 00/43442 A (SUNPOR KUNSTSTOFF GMBH) 27
 July 2000
 - D2: EP-A-0 425 973 (BASF AKTIENGESELLSCHAFT) 8
 May 1991
 - D3: EP-A-0 682 077 (BASF AKTIENGESELLSCHAFT) 15
 November 1995
 - D4: US 2003/162852 Al (CHAUDHARY BHARAT I ET AL.)
 28 August 2003
- Dl (claim 1; example 1; page 3, lines 30-32; page 5, lines 18-22) describes a method of producing expandable polymer granules, said method comprising the following steps:
 - a) providing a styrene polymer,
 - b) mixing pentane into the polymer melt,
 - c) cooling the melt to about 120°C,
 - d) extruding through a hole type nozzle having a diameter of about 0.8 mm,
 - e) underwater pelletizing of the blowing agentcontaining melt at increased pressure,
 - f) prefoaming the obtained expandable particles to 15 g/l, and
 - g) fusing the expanded particles to produce slabstock foam.
 - D1 does not describe mixtures of styrene polymers as described in the present claims 1, 3 and 5.

Supplemental Box

The subject matter of main claims 1, 3, 5 and 6 is therefore novel over Dl (PCT Article 33(2)).

D2 (claims; examples; page 3, lines 39-44)
describes a method of producing expandable polymer
granules in which styrene is polymerized in the
presence of a non-crosslinked styrene-diene
copolymer. It is anticipated by claim 1 of D2 that
such a method would produce a mixture of 10-90% by
weight pure (radically polymerized) polystyrene
and 10-90% by weight crosslinked styrene-diene
copolymer.

Furthermore, D2 describes a method of producing expanded polystyrene foams in which the granules are prefoamed to about 20 g/l by heating and subsequently fused.

The subject matter of main claims 1, 3 and 6 is therefore not novel over D2 (PCT Article 33(2)).

A method according to the present claim 5 is not anticipated by D2.

D3 (claims 1, 9, 10) describes expandable thermoplastic polymer granules comprising inter alia a) 5-20% by weight of a styrene block copolymer and b) 50-90% by weight of a radically polymerized polystyrene.

Furthermore, D3 (claim 13; examples) describes a

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Supplemental Box

method of producing expanded polystyrene foams in which the granules are prefoamed to 23.8 g/l by heating and subsequently fused in a steamable press.

The subject matter of main claims 1, 3 and 6 is therefore not novel over D3 (PCT Article 33(2)).

A method according to the present claim 5 is not anticipated by D3.

D4 (claims 1, 2; paragraphs [0074], [0075], [0089], [0105], [0106]) describes expandable thermoplastic polymer granules comprising a) 20-85% by weight of a styrene copolymer or homopolymer and 15-80% by weight of a copolymer which can comprise vinylaromatic, vinyl and/or vinylidene units.

D4 does not disclose styrene copolymers as described in the present main claims.

The subject matter of main claims 1, 3, 5 and 6 is therefore novel over D4.

6 D1 is considered to be the prior art closest to method claim 5.

D1 describes a method from which the subject matter of claim 5 differs at least by the composition of the styrene polymer.

Supplemental Box

Since it is unclear what technical effect is brought about by this distinguishing feature, the objective problem addressed by the present application can be regarded as that of providing another method.

D2 and D3 do not describe a melt extrusion process and therefore cannot be used in the assessment of inventive step. The subject matter of the present claim 5 therefore cannot be derived in an obvious way from the combined prior art and, for this reason, meets the requirements of PCT Article 33(3).

Dependent claims 2 and 4 do not contain any features which, in combination with the features of any claim to which they refer back, meet the PCT requirements for novelty and inventive step.